



[4910-13-P]

## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2014-0129; Directorate Identifier 2013-NM-105-AD; Amendment 39-17931; AD 2014-16-07]**

**RIN 2120-AA64**

**Airworthiness Directives; Bombardier, Inc. Airplanes**

**AGENCY:** Federal Aviation Administration (FAA), Department of Transportation (DOT).

**ACTION:** Final rule.

**SUMMARY:** We are superseding Airworthiness Directive (AD) 2011-15-09 for certain Bombardier, Inc. Model DHC-8-400, -401, and -402 airplanes. AD 2011-15-09 required repetitive inspections for proper operation of the main landing gear (MLG) alternate extension system (AES), and corrective actions if necessary. This new AD requires, for certain airplanes, new repetitive inspections for proper operation of the MLG AES, and corrective actions if necessary. This new AD also requires eventually replacing the MLG AES cam mechanism assembly with a new assembly, which terminates the repetitive inspections for those airplanes. This AD was prompted by a determination that, for certain airplanes not affected by AD 2011-15-09, a different MLG AES cam mechanism assembly was installed, resulting in input lever fractures and inability to open the MLG door; those assemblies could be subject to the same unsafe condition in AD 2011-15-09. We are issuing this AD to prevent improper operation of the cam mechanism or rupture

of the door release cable, which could result in loss of control of the airplane during landing.

**DATES:** This AD becomes effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of a certain other publication listed in this AD as of August 2, 2011 (76 FR 42033, July 18, 2011).

**ADDRESSES:** You may examine the AD docket on the Internet at <http://www.regulations.gov/#!docketDetail;D=FAA-2014-0129>; or in person at the Docket Management Facility, U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC.

For service information identified in this AD, contact Bombardier, Inc., Q-Series Technical Help Desk, 123 Garratt Boulevard, Toronto, Ontario M3K 1Y5, Canada; telephone 416-375-4000; fax 416-375-4539; e-mail [thd.qseries@aero.bombardier.com](mailto:thd.qseries@aero.bombardier.com); Internet <http://www.bombardier.com>. You may view this referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

**FOR FURTHER INFORMATION CONTACT:** Cesar Gomez, Aerospace Engineer, Airframe and Mechanical Systems Branch, ANE-171, FAA, New York Aircraft Certification Office, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone (516) 228-7318; fax (516) 794-5531.

**SUPPLEMENTARY INFORMATION:**

**Discussion**

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to supersede AD 2011-15-09, Amendment 39-16756 (76 FR 42033, July 18, 2011).

AD 2011-15-09 applied to certain Bombardier, Inc. Model DHC-8-400, -401, and -402 airplanes. The NPRM published in the Federal Register on March 5, 2014 (79 FR 12428).

Transport Canada Civil Aviation (TCCA), which is the aviation authority for Canada, has issued Canadian Airworthiness Directive CF-2011-01R2, dated May 21, 2013 (referred to after this as the Mandatory Continuing Airworthiness Information, or “the MCAI”), to correct an unsafe condition for certain Bombardier, Inc. Model DHC-8-400, -401, and -402 airplanes. The MCAI states:

Two cases of the main landing gear (MLG) alternate extension system (AES) cam mechanism failure were found during line checks. The cam mechanism operates the cable to open the MLG door and releases the MLG uplock in sequence. In the case where it is necessary to deploy the MLG using the AES, the failure of the MLG AES cam mechanism on one side will lead to an unsafe asymmetrical landing configuration.

Preliminary investigation indicates that the cam mechanism failure may have occurred and remained dormant after a previous AES operation. The cam mechanism may not have fully returned to the normal rested position. With the cam mechanism out of normal rested position, normal

powered landing gear door operation could introduce sufficient loads to fracture the cam mechanism or rupture the door release cable.

This [Canadian] AD mandates the initial and subsequent [detailed] inspections for proper operation of the MLG AES cam mechanism, and rectify [repair or replace cam assembly with new or serviceable cam assembly] as necessary.

Since the original issue of this [Canadian] AD, Bombardier Inc. has determined that the existing inspection procedure is insufficient for verification of proper MLG AES cam mechanism operation, and has superseded this inspection procedure. Revision 1 of this [Canadian] AD mandates the use of the revised inspection [and rectification] procedure.

Prior to the introduction of MLG AES cam mechanism assembly part number (P/N) 48510-5 as terminating action, an interim MLG AES cam mechanism assembly P/N 48510-3 was introduced.

Revision 2 of this [Canadian] AD updates the applicability paragraph, updates the MLG AES cam mechanism inspection criteria and mandates the terminating action.

You may examine the MCAI in the AD docket on the Internet at

<http://www.regulations.gov/#!docketDetail;D=FAA-2014-0129>.

### **Comments**

We gave the public the opportunity to participate in developing this AD. We considered the comment received. The commenter supported the NPRM (79 FR 12428, March 5, 2014).

### **“Contacting the Manufacturer” Paragraph in this AD**

Since late 2006, we have included a standard paragraph titled “Airworthy Product” in all MCAI ADs in which the FAA develops an AD based on a foreign authority’s AD.

The MCAI or referenced service information in an FAA AD often directs the owner/operator to contact the manufacturer for corrective actions, such as a repair. Briefly, the Airworthy Product paragraph allowed owners/operators to use corrective actions provided by the manufacturer if those actions were FAA-approved. In addition, the paragraph stated that any actions approved by the State of Design Authority (or its delegated agent) are considered to be FAA-approved.

In the NPRM (79 FR 12428, March 5, 2014), we proposed to prevent the use of repairs that were not specifically developed to correct the unsafe condition, by requiring that the repair approval provided by the State of Design Authority or its delegated agent specifically refer to this FAA AD. This change was intended to clarify the method of compliance and to provide operators with better visibility of repairs that are specifically developed and approved to correct the unsafe condition. In addition, we proposed to change the phrase “its delegated agent” to include a design approval holder (DAH) with State of Design Authority design organization approval (DOA), as applicable, to refer to a DAH authorized to approve required repairs for the proposed AD.

No comments were provided to the NPRM (79 FR 12428, March 5, 2014) about these proposed changes. However, a comment was provided for an NPRM having Directorate Identifier 2012-NM-101-AD (78 FR 78285, December 26, 2013). The

commenter stated the following: “The proposed wording, being specific to repairs, eliminates the interpretation that Airbus messages are acceptable for approving minor deviations (corrective actions) needed during accomplishment of an AD mandated Airbus service bulletin.”

This comment has made the FAA aware that some operators have misunderstood or misinterpreted the Airworthy Product paragraph to allow the owner/operator to use messages provided by the manufacturer as approval of deviations during the accomplishment of an AD-mandated action. The Airworthy Product paragraph does not approve messages or other information provided by the manufacturer for deviations to the requirements of the AD-mandated actions. The Airworthy Product paragraph only addresses the requirement to contact the manufacturer for corrective actions for the identified unsafe condition and does not cover deviations from other AD requirements. However, deviations to AD-required actions are addressed in 14 CFR 39.17, and anyone may request the approval for an alternative method of compliance to the AD-required actions using the procedures found in 14 CFR 39.19.

To address this misunderstanding and misinterpretation of the Airworthy Product paragraph, we have changed the paragraph and retitled it “Contacting the Manufacturer.” This paragraph now clarifies that for any requirement in this AD to obtain corrective actions from a manufacturer, the actions must be accomplished using a method approved by the FAA, TCCA, or Bombardier, Inc.’s TCCA Design Approval Organization (DAO).

The Contacting the Manufacturer paragraph also clarifies that, if approved by the DAO, the approval must include the DAO-authorized signature. The DAO signature

indicates that the data and information contained in the document are TCCA-approved, which is also FAA-approved. Messages and other information provided by the manufacturer that do not contain the DAO-authorized signature approval are not TCCA-approved, unless TCCA directly approves the manufacturer's message or other information.

This clarification does not remove flexibility previously afforded by the Airworthy Product paragraph. Consistent with long-standing FAA policy, such flexibility was never intended for required actions. This is also consistent with the recommendation of the Airworthiness Directive Implementation Aviation Rulemaking Committee to increase flexibility in complying with ADs by identifying those actions in manufacturers' service instructions that are "Required for Compliance" with ADs. We continue to work with manufacturers to implement this recommendation. But once we determine that an action is required, any deviation from the requirement must be approved as an alternative method of compliance.

Other commenters to the NPRM having Directorate Identifier 2012-NM-101-AD (78 FR 78285, December 26, 2013) pointed out that in many cases the foreign manufacturer's service bulletin and the foreign authority's MCAI might have been issued some time before the FAA AD. Therefore, the DOA might have provided U.S. operators with an approved repair, developed with full awareness of the unsafe condition, before the FAA AD is issued. Under these circumstances, to comply with the FAA AD, the operator would be required to go back to the manufacturer's DOA and obtain a new

approval document, adding time and expense to the compliance process with no safety benefit.

Based on these comments, we removed the requirement that the DAH-provided repair specifically refer to this AD. Before adopting such a requirement, the FAA will coordinate with affected DAHs and verify they are prepared to implement means to ensure that their repair approvals consider the unsafe condition addressed in this AD. Any such requirements will be adopted through the normal AD rulemaking process, including notice-and-comment procedures, when appropriate.

We also have decided not to include a generic reference to either the “delegated agent” or “DAH with State of Design Authority design organization approval,” but instead we have provided the specific delegation approval granted by the State of Design Authority for the DAH throughout this AD.

#### **Change to Paragraph (g)(3) of this AD**

For clarity purposes, we have revised paragraph (g)(3) of this AD by adding new paragraphs (g)(3)(i) and (g)(3)(ii) to this AD.

#### **Conclusion**

We reviewed the available data, including the comment received, and determined that air safety and the public interest require adopting this AD with the changes described previously and minor editorial changes. We have determined that these minor changes:

- Are consistent with the intent that was proposed in the NPRM (79 FR 12428, March 5, 2014) for correcting the unsafe condition; and



- Do not add any additional burden upon the public than was already proposed in the NPRM (79 FR 12428, March 5, 2014).

We also determined that these changes will not increase the economic burden on any operator or increase the scope of this AD.

### **Costs of Compliance**

We estimate that this AD affects 75 airplanes of U.S. registry.

#### **Estimated costs**

<b>Action</b>	<b>Labor cost</b>	<b>Parts cost</b>	<b>Cost per product</b>	<b>Cost on U.S. operators</b>
Inspection in AD 2011-15-09, Amendment 39-16756 (76 FR 42033, July 18, 2011)	Up to 24 work-hours X \$85 per hour = up to \$2,040 per inspection cycle	\$2,609	Up to \$4,649 per inspection cycle	Up to \$348,675 per inspection cycle
Inspection [new action]	1 work-hour X \$85 per hour = \$85 per inspection cycle	\$0	\$85 per inspection cycle	\$6,375 per inspection cycle
Replacement of both cam assemblies [new terminating action]	4 work-hours X \$85 per hour = \$680 [340 per cam assembly]	\$7,676 (2 cam assemblies)	\$80,167	\$601,200

### **Authority for This Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. "Subtitle VII: Aviation Programs," describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in “Subtitle VII, Part A, Subpart III, Section 44701: General requirements.” Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

### **Regulatory Findings**

We determined that this AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

1. Is not a “significant regulatory action” under Executive Order 12866;
2. Is not a “significant rule” under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979);
3. Will not affect intrastate aviation in Alaska; and
4. Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

### **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov/#!docketDetail;D=FAA-2014-0129>; or in person at the

Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Operations office (telephone 800-647-5527) is in the ADDRESSES section.

#### **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

#### **Adoption of the Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

#### **PART 39 - AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

2. The FAA amends § 39.13 by removing Airworthiness Directive (AD) 2011-15-09, Amendment 39-16756 (76 FR 42033, July 18, 2011), and adding the following new AD:

**2014-16-07 Bombardier, Inc.:** Amendment 39-17931. Docket No. FAA-2014-0129; Directorate Identifier 2013-NM-105-AD.

#### **(a) Effective Date**

This AD becomes effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**(b) Affected ADs**

This AD replaces AD 2011-15-09, Amendment 39-16756 (76 FR 42033, July 18, 2011).

**(c) Applicability**

This AD applies to Bombardier, Inc. Model DHC-8-400, -401, and -402 airplanes, certificated in any category, serial numbers 4001, 4003 through 4418 inclusive, 4422 and 4423.

**(d) Subject**

Air Transport Association (ATA) of America Code 32, Landing Gear.

**(e) Reason**

This AD was prompted by a determination that a different main landing gear (MLG) alternate extension system (AES) cam mechanism assembly was installed resulting in input lever fractures and inability to open the MLG door; those assemblies could be subject to the same unsafe condition in the existing AD. We are issuing this AD to prevent improper operation of the cam mechanism or rupture of the door release cable, which could result in loss of control of the airplane during landing.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Retained Detailed Inspection for Proper Operation of the MLG**

This paragraph restates the requirement in paragraph (i) of AD 2011-15-09, Amendment 39-16756 (76 FR 42033, July 18, 2011), with revised service information. For airplanes with a MLG AES cam mechanism assembly having part number (P/N)

48510-1: Within 50 flight hours or 10 days after August 2, 2011 (the effective date of AD 2011-15-09, Amendment 39-16756 (76 FR 42033, July 18, 2011)), whichever occurs first, do a detailed inspection for proper operation of the MLG AES cam mechanism, in accordance with paragraph A) of Bombardier Repair Drawing 8/4-32-0160, Issue 3, dated February 15, 2011; or Bombardier Repair Drawing 8/4-32-0160, Issue 6, dated June 27, 2012. As of the effective date of this AD, use only Bombardier Repair Drawing 8/4-32-0160, Issue 6, dated June 27, 2012. Repeat the inspection thereafter at intervals not to exceed 50 flight hours or 10 days, whichever occurs first.

(1) If the cam mechanism is found to reset to the normal rested position without any sticking or binding, it is operating properly.

(2) If the cam mechanism has not reset to its normal rested position, or if any sticking or binding is observed, before further flight, remove the cam assembly, in accordance with paragraph A) of Bombardier Repair Drawing 8/4-32-0160, Issue 3, dated February 15, 2011; or Bombardier Repair Drawing 8/4-32-0160, Issue 6, dated June 27, 2012, and do the actions in paragraph (g)(2)(i) or (g)(2)(ii) of this AD. As of the effective date of this AD, use only Bombardier Repair Drawing 8/4-32-0160, Issue 6, dated June 27, 2012.

(i) Repair the cam mechanism assembly, including doing detailed inspections for discrepancies (an inspection to determine proper operation, an inspection for damage, an inspection for corrosion and cadmium coating degradation, and inspections to determine dimensions are within the limits specified in paragraph B) of Bombardier Repair Drawing 8/4-32-0160, Issue 3, dated February 15, 2011; or Bombardier Repair Drawing

8/4-32-0160 Issue 6, dated June 27, 2012, in accordance with paragraph B) of Bombardier Repair Drawing 8/4-32-0160, Issue 3, dated February 15, 2011; and install the repaired cam assembly in accordance with paragraph C) of Bombardier Repair Drawing 8/4-32-0160, Issue 3, dated February 15, 2011; or Bombardier Repair Drawing 8/4-32-0160, Issue 6, dated June 27, 2012. As of the effective date of this AD, use only Bombardier Repair Drawing 8/4-32-0160, Issue 6, dated June 27, 2012.

(ii) Install a new or serviceable cam assembly, in accordance with paragraph C) of Bombardier Repair Drawing 8/4-32-0160, Issue 3, dated February 15, 2011; or Bombardier Repair Drawing 8/4-32-0160, Issue 6, dated June 27, 2012. As of the effective date of this AD, use only Bombardier Repair Drawing 8/4-32-0160, Issue 6, dated June 27, 2012.

(3) If the cam mechanism is found damaged or inoperative during the repair specified in paragraph (g)(2)(i) of this AD; or if any discrepancies are found and Bombardier Repair Drawing 8/4-32-0160, Issue 3, dated February 15, 2011, or Bombardier Repair Drawing 8/4-32-0160, Issue 6, dated June 27, 2012, does not specify repairs for those discrepancies; or repairs specified in paragraph (g)(2)(i) of this AD cannot be accomplished: Before further flight, accomplish paragraph (g)(3)(i) or (g)(3)(ii) of this AD.

(i) Repair and reinstall using a method approved by the Manager, New York ACO, ANE-170, Engine and Propeller Directorate, FAA; or Transport Canada Civil Aviation (TCCA); or Bombardier, Inc.'s TCCA Design Approval Organization (DAO). If approved by the DAO, the approval must include the DAO-authorized signature.

(ii) Install a new or serviceable cam assembly, in accordance with paragraph C) of Bombardier Repair Drawing 8/4-32-0160, Issue 3, dated February 15, 2011; or Bombardier Repair Drawing 8/4-32-0160, Issue 6, dated June 27, 2012. As of the effective date of this AD, use only Bombardier Repair Drawing 8/4-32-0160, Issue 6, dated June 27, 2012, to install the cam assembly.

**(h) New Inspection for Proper Operation of the MLG Replacement Part**

For airplanes with a MLG AES cam mechanism assembly having P/N 48510-3: Within 1,800 flight hours or 9 months after installation of the assembly, whichever occurs first after the effective date of this AD, do a detailed inspection for proper operation of the MLG AES cam mechanism, in accordance with paragraph A) of Bombardier Repair Drawing 8/4-32-0160, Issue 6, dated June 27, 2012. Repeat the inspection thereafter at intervals not to exceed 600 flight hours or 3 months, whichever occurs first.

(1) If the cam mechanism is found to reset to the normal rested position without any sticking or binding, it is operating properly.

(2) If the cam mechanism has not reset to its normal rested position, or if any sticking or binding is observed, before further flight, remove the cam assembly, in accordance with paragraph A) of Bombardier Repair Drawing 8/4-32-0160, Issue 6, dated June 27, 2012, and do the actions required by paragraphs (h)(2)(i) or (h)(2)(ii) of this AD.

(i) Repair the cam mechanism assembly, including doing detailed inspections for discrepancies (an inspection to determine proper operation, an inspection for damage, an

inspection for corrosion and cadmium coating degradation, and inspections to determine dimensions are within the limits specified in paragraph B) of Bombardier Repair Drawing 8/4-32-0160, Issue 6, dated June 27, 2012), in accordance with paragraph B) of Bombardier Repair Drawing 8/4-32-0160, Issue 6, dated June 27, 2012; and install the repaired cam assembly in accordance with paragraph C) of Bombardier Repair Drawing 8/4-32-0160, Issue 6, dated June 27, 2012.

(ii) Install a new or serviceable cam assembly, in accordance with paragraph C) of Bombardier Repair Drawing 8/4-32-0160, Issue 6, dated June 27, 2012.

(3) If the cam mechanism is found damaged or inoperative during the repair specified in paragraph (h)(2)(i) of this AD; or if any discrepancies are found and Bombardier Repair Drawing 8/4-32-0160, Issue 6, dated June 27, 2012, does not specify repairs for those discrepancies; or repairs specified in paragraph (h)(2)(i) of this AD cannot be accomplished: Before further flight, do the applicable actions required by paragraph (h)(3)(i) or (h)(3)(ii) of this AD.

(i) Repair and reinstall using a method approved by the Manager, ANE-170, New York ACO, FAA, or TCCA; or Bombardier, Inc.'s TCCA Design Approval Organization (DAO). If approved by the DAO, the approval must include the DAO-authorized signature.

(ii) Install a new or serviceable cam assembly, in accordance with paragraph C) of Bombardier Repair Drawing 8/4-32-0160, Issue 6, dated June 27, 2012.



**(i) New Credit for Previous Actions for Paragraphs (g) and (h) of this AD**

This paragraph provides credit for actions required by paragraphs (g) and (h) of this AD, if those actions were performed before the effective date of this AD using Bombardier Repair Drawing 8/4-32-0160, Issue 5, dated June 6, 2012, which is not incorporated by reference in this AD.

**(j) New Terminating Action**

Within 6,000 flight hours or 36 months after the effective date of this AD, whichever occurs first, replace any MLG AES cam mechanism assembly having P/N 48510-1 or P/N 48510-3 with a new MLG AES cam mechanism assembly having P/N 48510-5, in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 84-32-100, Revision A, dated August 30, 2012. Accomplishing this replacement terminates the repetitive inspections required by this AD.

**(k) New Credit for Previous Actions for Paragraph (j) of this AD**

This paragraph provides credit for actions required by paragraphs (j) of this AD, if those actions were performed before the effective date of this AD using Bombardier Service Bulletin 84-32-100, dated August 15, 2012, which is not incorporated by reference in this AD.

**(l) Other FAA AD Provisions**

The following provisions also apply to this AD:

**(1) Alternative Methods of Compliance (AMOCs):** The Manager, New York Aircraft Certification Office (ACO), ANE-170, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In

accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. ATTN: Program Manager, Continuing Operational Safety, FAA, New York ACO, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7300; fax 516-794-5531. Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office. The AMOC approval letter must specifically reference this AD.

**(2) Contacting the Manufacturer:** For any requirement in this AD to obtain corrective actions from a manufacturer, the action must be accomplished using a method approved by the Manager, New York ACO, ANE-170, Engine and Propeller Directorate, FAA; or TCCA; or Bombardier, Inc.'s TCCA Design Approval Organization (DAO). If approved by the DAO, the approval must include the DAO-authorized signature.

**(m) Related Information**

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) Canadian Airworthiness Directive CF-2011-01R2, dated May 21, 2013, for related information. You may examine the MCAI in the AD docket on the Internet at <http://www.regulations.gov/#!docketDetail;D=FAA-2014-0129>.

(2) Service information identified in this AD that is not incorporated by reference is available at the addresses specified in paragraphs (n)(5) and (n)(6) of this AD.

**(n) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless this AD specifies otherwise.

(3) The following service information was approved for IBR on [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(i) Bombardier Repair Drawing 8/4-32-0160, Issue 6, dated June 27, 2012. The issue dates for this document are identified only on sheets 1 and 1A of this document.

(ii) Bombardier Service Bulletin 84-32-100, Revision A, dated August 30, 2012.

(4) The following service information was approved for IBR on August 2, 2011 (76 FR 42033, July 18, 2011).

(i) Bombardier Repair Drawing 8/4-32-0160, Issue 3, dated February 15, 2011. The issue dates for this document are identified only on the first page of this document.

(ii) Reserved.

(5) For service information identified in this AD, contact Bombardier, Inc., Q-Series Technical Help Desk, 123 Garratt Boulevard, Toronto, Ontario M3K 1Y5, Canada; telephone 416-375-4000; fax 416-375-4539; email [thd.qseries@aero.bombardier.com](mailto:thd.qseries@aero.bombardier.com); Internet <http://www.bombardier.com>.

(6) You may view this service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

(7) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to:  
<http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued in Renton, Washington, on July 30, 2014.

Jeffrey E. Duven,  
Manager,  
Transport Airplane Directorate,  
Aircraft Certification Service.

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